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REMARKS

Applicant amends claims 6-8, 11-13, 15, 16, 19, and 20. New claims 21-24 are added. Claims 1-5, 9, 10, and 14 have been previously cancelled without prejudice to their underlying subject matter. Claims 17 and 18 are currently cancelled without prejudice to their underlying subject matter. Concurrently herewith, Applicant submits a substitute specification to better and more clearly describe the invention. Applicant also submits a mark-up version of the substitute specification showing the changes made therein. Applicant also submits new substitute informal drawings to replace the drawings originally submitted and those submitted by facsimile on October 24, 2002. Applicant respectfully requests that the substitute specification and informal drawings be approved and entered. Applicant also directs the Examiner's attention to the change of attorney of record in this matter and the related change in attorney docket number and requests that the new attorney docket number henceforth be used.

The specification and drawings stand objected to and are requested to be corrected. Both the specification and drawings are corrected by the concurrent filing of substitutes. Applicant respectfully requests that the 35 U.S.C. § 112 rejection of the specification and the disapproval of the drawings be withdrawn.

Claims 6, 7, and 11 stand objected to because of informalities. The amendment to the claims should remedy the identified informalities and the objection is respectfully requested to be withdrawn.

Claims 6 and 11 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter not described in the specification so as to convey to one skilled in the art that the inventor was in possession of his invention at the filing of this application. The amendment to the claims should overcome this rejection and it is respectfully requested to be withdrawn.

Claims 7 and 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 4,827,118 (Shibata et al.). Applicant respectfully traverses this rejection.

Claim 7, as amended, defines a packaged CMOS imager array and recites “a photosensor, said photosensor being configured to accumulate charge and being electrically coupled to at least one first electrical connection” and “a clear plastic quad flat package, said clear plastic quad flat package encapsulating said photosensor and comprising an edge perimeter, wherein said clear plastic quad flat package is transparent in all directions” and “at least one second electrical connection along said edge perimeter, said at least one second electrical connection being electrically coupled to said at least one first electrical connection.” This claimed device is not anticipated by Shibata et al.

Shibata et al. does not disclose a clear plastic quad flat package that encapsulates a CMOS imager array as claimed. The device shown in figure 1 of Shibata et al. is an a dual in-line package, which is an inserted-style packaging type (column 5, line 13). This is different than a quad flat package, which is a surface mounted type package. Since Shibata et al. does not disclose every element recited by the claim, claim 7 is patentable over the reference. Applicant respectfully requests that the 35 U.S.C. § 102(b) rejection of claim 7 be withdrawn.

Claim 8, as amended, defines a method of packaging an imager device and recites “providing an imager device” and “forming a clear plastic quad flat package for said imager device, wherein said imager device is totally encased within said clear plastic quad flat package” and “forming electrical connections between a perimeter of said clear plastic quad flat package and said imager device” and “wherein said imager device is positioned to receive light that passes through said clear plastic quad flat package from any of a plurality of different incoming angles and through different surfaces of said clear plastic quad flat package.” This claimed device is not anticipated by Shibata et al.

As discussed above in relation to claim 7, Shibata et al. discloses a dual in-line package style device, not a quad flat package style device as recited by claim 8. For this reason, Shibata et al. also does not anticipate claim 8. Applicant respectfully requests that the 35 U.S.C. § 102(b) rejection of claim 8 be withdrawn.

Claim 7 is rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,122,045 (Tomisawa et al.). Applicant respectfully traverses this rejection.

Tomisawa et al. does not disclose, directly or inherently, a “clear plastic quad flat package [that] is transparent in all directions.” The light transmitting nature of the resin used for the package 12 of Tomisawa et al. is never defined. Even if it could be assumed that a part of the package 12 necessarily must be transparent to correlate with the light emitting or light detecting function of the semiconductor chip 10 within, it is not a certainty or necessity that the package be transparent in all directions as claimed. The package 12 of Tomisawa et al. need only be transparent in a region relative to the major surface 11 of the semiconductor chip 10 (column 3, lines 40-44).

An inherency-based rejection must provide a rationale or evidence tending to show inherency, which must include a showing that: (1) the compositions of the claimed subject matter and the prior art are the same, (2) that any missing descriptive matter is necessarily present in the reference and would be so recognized by those of ordinary skill in the art, and (3) must provide a basis in fact and/or technical reasoning which reasonably supports a determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. M.P.E.P. § 2112. The rejection fails in all three prongs of this evidentiary burden. It has not been expressly explained how the subject matter claimed and that of the reference are identical in structure. It has not been expressly explained how any claimed subject matter missing from the reference is necessarily present in the structure disclosed therein or that such would be recognized by one of ordinary skill in the art. Additionally, there is no factual or technical reasoning to support that the

allegedly inherent clear feature of the recited package is necessarily a characteristic of the structures disclosed by the reference.

For these reasons, Tomisawa et al. does not anticipate claim 7 and the 35 U.S.C. § 102(b) rejection of this claim is respectfully requested to be withdrawn.

Claims 11-13 and 16-18 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 5,811,797 (Kobachi et al.). Applicant respectfully traverses this rejection.

Claim 11, as amended, defines a method of packaging an imager device and recites “providing a first image sensor” and “providing a second image sensor” and “forming a clear plastic package totally enclosing said first image sensor and said second image sensor” and “providing electrical connections between said first and second image sensors and a perimeter of said clear plastic package” and “wherein said first and second image sensors are positioned to receive light that passes through said clear plastic package, said first image sensor being positioned to acquire light from a first direction and said second image sensor being positioned to acquire light from a second direction different from said first direction.” This claimed method is not disclosed by Kobachi et al.

Kobachi et al. does not disclose, directly or inherently, that “image sensors are positioned to receive light that passes through said clear plastic package, said first image sensor being positioned to acquire light from a first direction and said second image sensor being positioned to acquire light from a second direction different from said first direction.” As disclosed by Kobachi et al., the light receiving elements 112A -112D must be positioned to receive light from a single direction, i.e., the direction of the object 111 off which the light reflects (column 8, lines 13-21). Thus, Kobachi et al. discloses the opposite structure as that formed by the method of claim 11. For this reason, Kobachi et al. does not anticipate claim 11 and the 35 U.S.C. § 102(e) rejection of the claim is respectfully requested to be withdrawn.

Claim 12, as amended, defines an image sensor and recites “a first image sensor” and “a second image sensor” and “a third image sensor” and “a clear plastic package enclosing said first, second, and third image sensors, said clear plastic package and said first, second, and third image sensors configured for acquiring light through a first side, a second side, and a third side of said clear plastic package, respectively, wherein said first, second, and third sides of said clear plastic package are different sides.” This claimed device is not anticipated by Kobachi et al.

Kobachi et al. does not disclose three image sensors enclosed by a clear plastic package where the image sensors are “configured for acquiring light through a first side, a second side, and a third side of said clear plastic package, respectively, wherein said first, second, and third sides of said clear plastic package are different sides.” As discussed above in relation to claim 11, the devices disclosed by Kobachi et al. must be configured to receive light only from one side (column 9, lines 21-35). Additionally, Kobachi et al. does not disclose a device where a clear plastic package has three different sides for light to be acquired through by image sensors. For these reasons, Kobachi et al. does not anticipate independent claim 12 or depending claims 13, 15, and 16. Applicant respectfully requests that the 35 U.S.C. § 102(e) rejection of claims 12, 13, 15, and 16 be withdrawn.

Claim 19 stands rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,091,689 (Taniguchi et al.). Applicant respectfully traverses this rejection.

Claim 19, as amended, defines an imager device and recites “a clear package, said clear package comprising an outer perimeter and an internal cavity defined within said outer perimeter, said outer perimeter comprising a plurality of first electrical connections” and “an imager die within said internal cavity, said imager die comprising an image sensor and a plurality of second electrical connections coupled to said plurality of first electrical connections” and “wherein said clear package completely surrounds said imager die and is transparent in all directions.” This claimed imager device is not disclosed by Taniguchi et al.

Taniguchi et al. does not disclose a clear plastic package with an internal cavity. The device shown in figure 9 of Taniguchi et al. has a microprism 2 of glass over a photodiode PD1, but there is no internal cavity as claimed. Additionally, Taniguchi et al. does not disclose an imager die within an internal cavity. As just discussed, the photodiode of Taniguchi et al. is beneath a microprism 2 of glass, not within a clear plastic package. Additionally, Taniguchi et al. does not disclose that a clear package completely surrounds an imager die. As just discussed, the microprism 2 disclosed by Taniguchi et al. is over the photodiode PD1, not surrounding it. Additionally, Taniguchi et al. does not disclose that a clear plastic package is transparent in all directions. The clear structure of Taniguchi et al., i.e., the microprism, is not clear in all directions, but is over a reflective integrated structure support 1, which is not transparent (column 3, lines 45 and 46). For these reasons, claim 19 is not anticipated by Taniguchi et al. and the 35 U.S.C. § 102(e) rejection of this claim is respectfully requested to be withdrawn.

Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobachi et al. Applicant respectfully traverses this rejection. Claim 15 depends from claim 12, which has already been discussed as patentable over Kobachi et al. For the same reasoning as set forth for the patentability of independent claim 12, claim 15 is likewise patentable over this reference and the rejection under 35 U.S.C. § 103(a) is respectfully requested to be withdrawn.

Claims 6, 19, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 4,329,577 (Asano et al.) in view of Kobachi et al. Applicant respectfully traverses this rejection.

Claim 6, as amended, defines a packaged photosensor device and recites “a first photosensor, said first photosensor comprising first electrical connections” and “a second photosensor, said second photosensor comprising second electrical connections” and “a clear plastic package supporting and enclosing said first and second photosensors, said clear plastic package comprising third electrical connections along an edge perimeter, said third

electrical connections being electrically coupled to said first and second electrical connections, wherein said clear plastic package is transparent in all directions and said first and second photosensors are configured to receive light from at least two opposite sides of said clear plastic package.” This device is not taught or suggested by Asano et al. and Kobachi et al.

To establish a prima facie case of obviousness, three requirements must be met: (1) some suggestion or motivation, either in the references themselves or in the knowledge of a person of ordinary skill in the art, to modify the reference or combine reference teachings; (2) a reasonable expectation of success; and (3) the prior art reference (or references when combined) must teach or suggest all the claim limitations. More importantly, the teaching or suggestion to make the claimed combination and the reasonable expectation for success must both be found in the prior art and not based on Applicant’s disclosure. M.P.E.P. § 2142. See, e.g., In re Royka, 490 F.2d 981 (CCPA 1974). The office action does not set forth the required prima facie case to establish obviousness because there has been no explanation of any suggestion or motivation to combine Asano et al. and Kobachi et al.; in fact there is none because the device described by Kobachi et al. would cease to function if configured like the device of Asano et al. Additionally, the office action sets forth no discussion that one of ordinary skill in the art should have a reasonable expectation of successfully combining the references to achieve the claimed invention.

For the above discussed reasons, the combination of Asano et al. and Kobachi et al. would not have rendered the subject matter of claim 6 obvious. Applicant respectfully requests that the 35 U.S.C. § 103(a) rejection of claim 6 be withdrawn.

The subject matter of claim 19 is not taught or suggested by either Kobachi et al. or Asano et al., taken individually or in combination. In addition to the lack of a prima facie case to establish obviousness for the subject matter of claim 19 over the cited references, neither Kobachi et al. nor Asano et al. teaches or suggests a clear package having

an internal cavity; they do not teach or suggest that such an internal cavity has within it an imager die; and they do not teach or suggest that the clear package surrounds the die and is transparent in all directions.

Thus, because of the lack of prima facie evidence and since the combined references do not teach or suggest the claimed device, the subject matter of claim 19 would not have been obvious over the references. The 35 U.S.C. § 103(a) rejection of independent claim 19 and depending claim 20 is respectfully requested to be withdrawn.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

Dated: June 12, 2003

Respectfully submitted,

By 

Thomas J. D'Amico

Registration No.: 28,371

Ryan H. Flax

Registration No.: 48,141

DICKSTEIN SHAPIRO MORIN &

OSHINSKY LLP

2101 L Street NW

Washington, DC 20037-1526

(202) 785-9700

Attorneys for Applicant